

# **PCT**

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	(Form PCT/ISA/2	of Transmittal of International Search Report 220) as well as, where applicable, item 5 below.
P032364WO	ACTION (Commonwealth Commonwealth Commonweal	T = " 001 = 0 = 11.1
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)
PCT/IB 03/06281 Applicant	17/11/2003	15/11/2002
Applicant		·
CHIRON SRL	1	
This International Search Report has been	prepared by this International Searching Authorsmitted to the International Bureau.	
at the good of the Charles and the state of	ASMIRTED TO THE INTERPRETATION DECEMBER OF THE	e de la companya del companya de la companya del companya de la co
This International Search Report consists of	of a total of 8 sheets.	
X It is also accompanied by a	a copy of each prior art document cited in this	report.
1 Pools of the report		
Basis of the report  a With regard to the language the in-	nternational search was carried out on the bas	in af the international configuration in the
language in which it was filed, unle	nternational search was carried out on the bases ass otherwise indicated under <b>th</b> is item.	is of the international application in the
the international search wa Authority (Rule 23.1(b)).	as carried out on the basis of a translation of th	ne international application furnished to this
b. With regard to any nucleotide and	for amino acid sequence disclosed in the in	ternational application, the international search
was carried out on the basis of the	sequence listing : nal application in written form.	
	national application in computer readable form	n
	this Authority in written form.	-
	this Authority in computer readble form.	
	sequently furnished written sequence listing do	oes not go beyond the disclosure in the
l ''		identical to the written sequence listing has been
2. Certain claims were foun	d unsearchable (See Box I).	
3. X Unity of invention is lack	•	
4. With regard to the title,		
the text is approved as sub	, , ,	
X the text has been establish	ed by this Authority to read as follows:	:
UNEXPECTED SURFACE PROT	TEINS IN NEISSERIA MENINGIT	IDIS
G. Marilla and an also also also also also also also also		
5. With regard to the abstract,		· ·
the text is approved as sub the text has been establish within one month from the	mitted by the applicant. led, according to Rule 38.2(b), by this Authority date of mailing of this international search repo	y as it appears in Box III. The applicant may, ort. submit comments to this Authority.
6. The figure of the drawings to be publis	•	. 1
X as suggested by the applica	<u>.</u>	None of the figures.
because the applicant failed		[ ] None of the lightes.
because this figure better c		



BOX I	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Inte	ernational Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1.	Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
2.	Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful international Search can be carried out, specifically:
3.	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II	Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This Inte	ernational Searching Authority found multiple inventions in this international application, as follows:
	see additional sheet
1.	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. X	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  1-5 (all partly)
Remark	on Protest  The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.

#### FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Inventions 1-158: claims 1-5 (all partly)

#### Inventions 1-158:

A compostion comprising (a) outer-membrane vesicles (OMV's) prepared from a first strain of Neisseria meningitidis and (b) one or more proteins which are present in OMV's prepared froma second strain of Neisseria meningitidis, but which are not present in OMV's prepared from said first strain. Furthermore the specification of (b), the use of OMV's of genetically-modified strains of Neisseria meningitidis comprising proteins not present in OMV's prior to modification and furthermore the specification of the protein of (b) as set out in claims 4 or 5. Each of the inventions 1-158 specifically and respectively relates to one of the proteins set out in claims 4 or 5 e.g. for invention 1, NMB0007 etc... to invention 158, NMB2159.

Inventions 159-375: claims 6-8 (all partly)

#### Inventions 159-375:

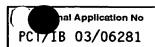
A lipid bilayer including each and respectively a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NO's: 1-217 or diverse variants, fragments or hybrids thereof. Furthermore the specification of the lipid bilayer and the said lipid bilayer which does not include some native membrane components. Each of the inventions 159-217 specifically and respectively relates to one of the proteins set out in SEQ ID NO's 1-217 e.g. for invention 159, SEQ ID NO: 1 etc... to invention 375, SEQ ID NO: 217.

Inventions 376-592: claims 10-13 (all partly)

#### Inventions 376-592:

A protein comprising each and respectively an amino acid sequence selected from the group consisting of SEQ ID NO's: 1-217 or diverse variants, fragments or hybrids thereof. Furthermore a nucleic acid encoding each of said proteins. Each of the inventions 376-592 specifically and respectively relates to one of the proteins set out in SEQ ID NO's 376-593 e.g. for invention 376, SEQ ID NO: 1 etc... to invention 593, SEQ ID NO: 217.

# INTEC NATIONAL SEARCH REPORT



A.	CLA	SSIFIC				MATTER		
IP	C	7	A61K	39/	095	C07K	14,	/22

According to International Patent Classification (IPC) or to both national classification and IPC

#### B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{A61K} \end{array}$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, MEDLINE, WPI Data, PAJ, Sequence Search

			T
Category °	Citation of document, with Indication, where appropriate, of t	he relevant passages	Relevant to claim No.
X	CLAASSEN I ET AL: "Production characterization and control of Neisseria meningitidis hexaval outer membrane protein contain vaccine" VACCINE, BUTTERWORTH SCIENTIFI GUILDFORD, GB, vol. 14, no. 10, 1 July 1996 (pages 1001-1008, XP004057632 ISSN: 0264-410X	of a ent class 1 ning vesicle	1-3
	page 1002, left-hand column		
Y	same citations	-/	4
X Furt	her documents are listed in the continuation of box C.	Patent family members are listed	in annex.
<u> </u>	her documents are listed in the continuation of box C.	*T* later document published after the Int	ernational filing date
* Special ca	ategories of cited documents: ent defining the general state of the art which is not		ernational filing date h the application but
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*Special ca *A* docume conside *E* earlier filing of *L* docume which citatio *O* docume other *P* documentater to	ategories of cited documents:  ent defining the general state of the art which is not dered to be of particular relevance document but published on or after the international state  ent which may throw doubts on priority claim(s) or is cited to establish the publication date of another n or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filing date but	*T* later document published after the int or priority date and not in conflict with cited to understand the principle or the invention  *X* document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the description of the cannot be considered to involve an inventive step when the cannot be considered to involve an inventive step when the cannot be considered to involve an inventive step with one or ments, such combination being obvidin the art.	emational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention nventive step when the hore other such docu- ous to a person skilled
Special care A docume consid E earlier filing o L docume which citatio O docum other P docum later t  Date of the	ategories of cited documents:  ent defining the general state of the art which is not dered to be of particular relevance document but published on or after the international date ent which may throw doubts on priority claim(s) or is cited to establish the publication date of another n or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ent published prior to the international filling date but han the priority date claimed	*T* later document published after the int or priority date and not in conflict with cited to understand the principle or the invention  *X* document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the divided and the cannot be considered to involve an involve and document is combined with one or ments, such combination being obviding the art.  *&* document member of the same patern	emational filing date in the application but neory underlying the claimed invention to be considered to ocument is taken alone claimed invention nventive step when the hore other such docu- ous to a person skilled

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## INTERNATIONAL SEARCH REPORT





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C.(Continua	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
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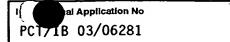
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C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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tamed?" ARCHIVES OF DISEASE IN CHILDHOOD. ENGLAND JUL 2002, vol. 87, no. 1, July 2002 (2002-07), pages 13-17, XP002284893 ISSN: 1468-2044 page 15; table 2  WO 01/09350 A (DALEMANS WILFRIED L J ;SMITHKLINE BEECHAM BIOLOG (BE); THIRY GEORG) 8 February 2001 (2001-02-08)	tamed?" ARCHIVES OF DISEASE IN CHILDHOOD. ENGLAND JUL 2002, vol. 87, no. 1, July 2002 (2002-07), pages 13-17, XP002284893 ISSN: 1468-2044 page 15; table 2  WO 01/09350 A (DALEMANS WILFRIED L J ;SMITHKLINE BEECHAM BIOLOG (BE); THIRY GEORG) 8 February 2001 (2001-02-08)	ategory °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
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